ADDENDUM TO:

ALTERNATIVE STATE FUNDING MODELS FOR HIGHER EDUCATION

STAFF REPORT TO PEPB SUB COMMITTEE

June 12, 2006

At the Postsecondary Education Policy and Budget subcommittee (PEPB) meeting on February 23, 2006, the subcommittee requested additional information from staff regarding alternative models for state funding of higher education (as part of workplan project #2). In that February report there were a number of options for different funding models and for different components that could be applied to the existing funding model.

Therefore, as per the PEPB request, this report will address the following three issues:

- Under which alternate funding formulas should the fixed vs. variable model be considered, as opposed to those formulas that already contemplate or accommodate these differences
- Which of these alternate formulas could be "phased in" over a period of time
- Provide additional "real time" illustrations and explanations of these formulas in order to demonstrate their effect, specifically which funding rolls over into the subsequent budget base

Under which alternate funding formulas should the fixed vs. variable model be considered, as opposed to those formulas that contemplate the differences?

The "cost of education" models should consider including a fixed vs. variable cost calculation as these models provide funding as a function of student FTE enrollment. Since many cost/expenditure levels are not solely driven by or directly correlated to enrollment, any consideration of using the "cost of education" model should include consideration of a fixed vs. variable costs calculation.

The "base plus adjustment" models would not need to consider including a fixed vs. variable cost calculation, as these models do not tie the overall funding level to variable cost factors, such as FTE student enrollment. Even in the existing enrollment based present law adjustment, what is funded is the "marginal cost" of each student as the "base plus" model already contemplates the fixed vs. variable costs.

The "state percent share policy decision" models also would not need to consider including a fixed vs. variable cost calculation, as these models are founded upon the "base plus adjustment" model. Once again, the "state percent share policy decision" model solely isolates the single funding factor of the state percent share calculation and proposes that this factor become either a purely public policy decision by the legislature, or indexed to a target based upon peer states or peer institutions.

Finally, the pay plan funding model would not require a fixed vs. variable cost calculation, as this model suggestion solely contemplates treating the state percent share decision for the pay plan separately from

HB2 appropriations and suggests making this state percent share a public policy decision rather than a mathematical formula.

Therefore, only the "cost of education" models should contemplate a fixed vs. variable costs calculation.

Which of these formulas could be "phased in" over a period of time

The "cost of education" models do not lend themselves to being phased in as there is no means to isolate a single component of the budget as a pilot process, but rather this model would address the entire budget.

On the other hand, the "base plus adjustment" models that focus on the state percent share factor could be phased in. Specifically, the legislature could use an alternative state percent share calculation (as a purely public policy decision or as indexed to a specific peer target) and apply the new model only to a single component of the budget, that being either the state pay plan funding level or to any of the present law adjustments.

In addition, the "incentive funding pool" model could also be phased in by designing a single decision package that has the measurable objective to meet a specific performance target, and thus making the funding contingent upon successful performance. Through the use of this single decision package pilot, this model could be evaluated and potentially phased in over several biennia. The "incentive funding pool" model is addressed in more detail under workplan project #1, which looks at accountability measures and performance objectives in new proposal decision packages.

Provide additional illustrations of these formulas in order to demonstrate their effect, specifically which funding rolls over into the subsequent budget base

At the February meeting of PEPB, the subcommittee discussed three alternate funding models for the university educational units. The following is a review of those three models with additional illustrations that demonstrate how these would be applied to the existing biennial budget, and clarifying which funding would then "rollover" into the subsequent budget base.

1. Cost of Education Models to Establish Base Funding

The mathematical illustration for this model, that does not include a fixed vs. variable costs calculation is:

Student Enrollment x Cost of Education x State Percent Share = Base Budget

If this were the formula used to determine the 2007 biennium budget for the university units, the ideal would be to have a calculation that defines the "cost of education" that is transparent, able to be validated, and is trusted by the executive, legislature and the Board of Regents. That calculation would need to start from the operating budgets from the base year, which for the 2007 biennium would be fiscal year 2004. Assuming that the CHE schedules for the university unit operating budgets were considered the agreed upon starting point, the cost of education model calculation would look like this:

Montana University System - Educational Units Funding
Illustration of Funding Model Components Using "Cost of Education" Model

	Projected Resident Student Enrollment	Cost of Education per Student	State Percent Share of Resident Students*	Base Budget (Includes GF and 6-mill levy revenue) **
Fiscal Year 2006	26,942	$8,357	52.43%	$118,053,800
Fiscal Year 2007	27,175	$8,357	51.98%	$118,053,933

* The state percent share figure was chosen in this illustration with intention to reach a base budget total that is approximate to the actual budget base (HB2 actual = $118,053,858).
** One-time-only expenditures have been removed from the ultimate calculation by using the HB2 actual base as the target.

Under the cost of education model, the above calculation would establish the base funding for the biennial budget, and the State Percent Share component would be a function of a public policy decision by the legislature or as indexed to a specific peer target. From this base funding level, the present law adjustments and new proposals would be then added as per the following illustration:

Base Budget + (Present Law x State % Share) + New Proposals = TOTAL BUDGET

Once again, the variable for this model would be how to determine the State Percent Share component; using the historical formula that is mathematically driven, or purely as a public policy decision of the legislature, or as indexed to a specific peer target.

Under this model, all funding **but for** the one-time-only (OTO) decision packages would rollover into the subsequent budget base as part of the base year operating budget. But, under this model, the amount of that base that is actually funded by the legislature would be driven by the student enrollment projections and, most important, by the policy decision the legislature makes each biennia as to what the state percent share component would be, specifically at what percentage of the cost of education would the legislature set base funding.

The mathematical illustration for the cost of education model that does include a fixed vs. variable costs calculation is the following:

[(Student Enrollment x Variable Cost of Education) + Fixed Cost of Education] x State Percent Share = Base Budget

A pre-requisite for this funding model would be identifying a calculation to determine what the ratio is between fixed and variable costs in the university unit budgets. It would be critical that this calculation be transparent and verifiable, as well as a calculation that the legislature, executive and Regents agree upon. Assuming that this calculation identified either a 60/40 fixed/variable ratio or 50/50, and assuming once again that the CHE operating budget schedule 13 was agreed upon as the verifiable expenditure ledger to calculate the Cost of Education factor, the following table illustrates how this model would work in the 2007 biennium budget to determine base funding for the university units:

Incorporates Fixed vs. Variable Costs Formula @ 60/40 Ratio

University Unit Funding for 2007 Biennium
Cost of Education Model and HB2 Appropriations
Adjusted State Percent Share for Formula to Be Revenue Neutral

Fiscal Year	Student Enrollment Projections	CHE13 Cost of Education Factor (COE)*	State Percent Share to Maintain HB2 Funding Level	Adjusted HB 2 Appropriation (with CHE13)	Check Column: HB 2 Actual Base Appropriation Plus Marginal Enrollment PLA
2,006	26,942	$256,452,183	46.1%	$118,152,650	$118,152,034
2,007	27,175	$257,231,099	46.1%	$118,661,220	$118,661,794

* Source: CHE Schedule 13 Actual Operating Budgets (not adjusted for BCD or OTO)
HB2 Figures above exclude one-time-only funding

Incorporates Fixed vs. Variable Costs Formula @ 50/50 Ratio

University Unit Funding for 2007 Biennium
Cost of Educational Model and HB2 Appropriations
Adjusted State Percent Share for Formula to Be Revenue Neutral

Fiscal Year	Student Enrollment Projections	CHE13 Cost of Education Factor (COE)*	State Percent Share to Maintain HB2 Funding Level	Adjusted HB 2 Appropriation (with CHE13)	Check Column: HB 2 Actual Base Appropriation Plus Marginal Enrollment PLA
2,006	26,942	$251,237,960	47.0%	$118,152,188	$118,152,034
2,007	27,175	$252,211,605	47.0%	$118,661,777	$118,661,794

* Source: CHE Schedule 13 Actual Operating Budgets (not adjusted for BCD or OTO)
HB2 Figures above exclude one-time-only funding

The table above is only meant to illustrate how this formula would work and to provide some connection to the current biennium HB2 appropriation level. For detail on the additional calculations behind this table, see appendix 1. Essentially, the formula operates by identifying the actual cost to educate each FTE student in the university units, and then the legislature makes a purely public policy decision to determine the state percent share at which state government should support Montana resident students' costs, and that public policy decision drives the HB2 base level appropriation. Starting from this base budget, the legislature would then consider present law adjustments and new proposals, as in the above model illustration, and the pay plan for the university units would be added in under the separate pay plan bill.

In terms of which funding would rollover into the subsequent budget base, all funding **but for** the one-time-only (OTO) decision packages would rollover into the subsequent budget base as part of the base year operating budget. But, under this model, the amount of that base that is actually funded by the legislature would be driven by the student enrollment projections and, most important, by the policy decision of the legislature each biennia as to what the state percent share component would be, specifically at what percentage of the cost of education would the legislature set base funding.

2. Base Plus Adjustments Model with State Percent Share Policy Decision

This is essentially the funding model that is currently used to determine state funding for the university units, specifically that the base funding level is determined by looking at the base year expenditures, with one-time-only funds removed, the present law adjustments are projected and multiplied by the state

percent share calculation, enrollment increases are projected and multiplied by the marginal cost per student calculation, and new proposal decision packages are added. Once again, the current model looks like the following:

Base Year Funding Level + (Present Law Adjustments x State % Share) + (Marginal Cost Per Student x FTE Growth) + New Proposals = UNIVERSITY UNITS BUDGET

The only proposed alternative to this model was to use a different calculation to determine the State Percent Share factor, with two options considered:

- To make this percentage a purely public policy decision by the legislature, such that the funding level for present law adjustments is a policy decision based upon available revenue and the percentage that the legislature believes state government should support these adjustments for Montana resident students
- To make this percentage a factor of a specific target based on a peer state or peer institution standard that the legislature determines is a public policy target for the university system, such as funding at a percentage that is equal to the peer state average level

Under both of these alternative models, all present law adjustments applied to the state percent share would rollover into the subsequent budget base, unless the decision package were to be a one-time-only appropriation. Also, as discussed above, these base plus funding models would not need to contemplate a fixed vs. variable costs calculation as the formula is not driven primarily by a variable factor, such as student FTE enrollment.

3. Funding the Pay Plan for the University Educational Units

The current method for calculating pay plan funding for the university educational units is that the base level expenditures for personal services costs are used to determine what the pay plan increases for salary and for benefits will cost, based upon the specific adjustments in the pay plan bill, and the total cost calculation is multiplied by the state percent share. That becomes the total funding level for the university units to support the pay plan.

In the 2007 session, the executive recommended and the legislature agreed, that the total cost of the pay plan bill (HB 447) to the educational units would be $25.4 million for the 2007 biennium. That cost projection is multiplied by the mathematical formula for the state percent share, which was approximately 39 percent in HB 2, so that the total pay plan funding for the educational units was $9.62 million. Stated mathematically this would look like:

Pay Plan Cost to Educational Units x **State Percent Share Calculation** = **HB 447 Funding**
($25.4 million x **39%** = **$9.62 million)**

Under the proposed alternate model of funding for the university educational units, the legislature could elect not to use the historical formula that is mathematically driven, but rather make the state percent share a purely public policy decision of the legislature, or as an index to a specific peer state or peer institution target.

Using either of these alternate models, all pay plan funding in HB 447 will rollover into the base of the subsequent budget.

Conclusion and Decision Options

If the legislature is interested in affecting the state budget for the educational units of the Montana University System at the base rather than just in the area of new proposals, legislators may want to consider selecting one or more of the above model options. Based upon this investigation and modeling, subsequent PEPB action options may include the following:

1. Discuss with the Office of Budget and Program Planning a package of changes to the higher education funding model for the 2009 biennium budget, perhaps advocating for a specific model

2. Recommend pilot implementation of an alternative funding model(s) to the Office of Budget and Program Planning for a specific component of the higher education budget

3. Request a bill draft for a comprehensive funding study during the 2007-2008 interim

4. Do nothing at this time on alternative funding models for the Montana University System

Appendix 1

The table below illustrates how the cost of education model using a fixed vs. variable costs calculation would determine what that Cost of Education factor should be for each fiscal year of the biennia, against which the state percent share factor is applied in order to determine total base funding.

CHE Schedule 13

FY2004 Base Year Data		Cost of Education Per FTE (COE Factor)
Total Op. Expenditures (CHE 13)	$277,309,075	$8,357
Total FTE Enrollment (LFD Fiscal Analysis)	33,181	
Using 60% Fixed Cost	$166,385,445	Not Applicable
Using 40% Variable Cost	$110,923,630	$3,343
Using 50% Fixed Cost	$138,654,538	Not Applicable
Using 50% Variable Cost	$138,654,538	$4,179
FY2006 HB2 Budget Data		
Projected Resident FTE Enrollment	26,942	
Budget Using 60/40 Ratio	$256,452,183	
Budget Using 50/50 Ratio	$251,237,960	
FY2007 HB2 Budget Data		
Projected Resident FTE Enrollment	27,175	
Budget Using 60/40 Ratio	$257,231,099	
Budget Using 50/50 Ratio	$252,211,605	